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AUTHOR Molek, Carol  
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## ABSTRACT

Operation Soft Boot was a program designed to develop a computer literacy curriculum for use with adult basic education (ABE) students at their educational level. Computer literacy instruction included a review of the component parts of a personal computer system and their operation and a review of basic keyboarding skills. Instruction also included a review of computer uses in education and other areas such as business, with hands-on experience running various types of software. More than 20 currently enrolled ABE students received three 3-hour sessions in classes of 8-10 students. Students worked on both IBM-compatible and Apple IIe computers. Students who participated in the program exhibited none of the apprehension and resistance to computers common to such students; however, a defect in the program was the limited availability of computers outside class time. (The program report includes an outline of the computer literacy course, a multiple-choice test with answer key, a list of software used, and information sheets.) (KC)

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ED352530

## Final Report

### Operation Soft Boot

by

Carol Molek, Adult Education Director

June 25, 1992

Tuscarora Intermediate Unit  
Adult Education and Job Training Center  
1020 Belle Vernon Avenue  
Lewistown, PA 17044  
717-248-4942

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## Acknowledgments

We wish to thank the Pennsylvania Department of Education for funding this project and especially Dr. John Christopher, Ed.D., Director, Bureau of Adult Basic and Literacy Education for his support of our programs.

We also extend gratitude to PDE Special Projects Advisor, Dan Partin, for his technical assistance and guidance. Funding for "Operation Soft Boot" has allowed us to enhance and develop our programming and delivery of much needed services to our area's adults.

As always we value the support of the Tuscarora Intermediate Unit Board and our Executive Director, Dr. Dale Heller. The Intermediate Unit continues to recognize our unique contribution to the total organization.

-Carol Molek, Project Director

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## Abstract

**Title:** Operation Soft Boot  
**Director:** Carol Molek  
**Address:** TIU Adult Education and      **Phone No.** (717)248-4942  
Job Training Center      **Federal Funding:** \$7,850  
1020 Belle Vernon Avenue      **No. of Months:** 12  
Lewistown, PA 17044

**Duration of Project:**      **From:** 7/1/91 **To:** 6/30/92

**Objectives:** -to develop a computer literacy curriculum for use with Adult Basic Education students at their current educational level.

-to implement the above curriculum with approximately twenty (20) Adult Basic Education students.

**Description:** "Operation Soft Boot" was a program designed to address Priority F-10, curriculum, instructional techniques and materials for statewide impact in the area of computer assisted instruction. Although other 353 projects have addressed the subject of basic computer literacy, "Operation Soft Boot" addressed the need to make Adult Basic Education (ABE) students comfortable with computers at their current educational level so that they were prepared to utilize computer assisted instruction in their basic education classes. Computer literacy instruction included a review of the component parts of personal computer system and their operation and a review of basic keyboarding skills. Instruction also included a review of computer uses in education and other areas such as business with hands-on experience running various types of software.

**Target Audience:** 20 Adult Basic Education students currently enrolled in basic education classes.

**Product:** Final report documenting the progress and success of the entire program including the curriculum outline.

**Method of Evaluation:** -development of an Adult Basic Education level computer literacy curriculum.

-instruction of over twenty (20) Adult Basic Education students in computer literacy instruction. In addition, many more students received some of the instruction less formally.

-a final report to be disseminated by the Tuscarora Intermediate Unit, AdvancE, and the Pennsylvania Department of Education.

## **Operation Soft Boot Introduction**

"Operation Soft Boot" was a program designed to address Priority F-10: curriculum, instructional techniques and materials for statewide impact in the area of computer assisted instruction. Although other 353 projects had addressed the subject of basic computer literacy, none had addressed the need to make Adult Basic Education (ABE) students comfortable with computers at their current educational level so that they would be prepared to utilize computer assisted instruction in their basic education classes. We had discovered through trial and error that many Adult Basic Education students have difficulty learning to use computer assisted instructional programs at the same time they are trying to assimilate English, math, or reading subject matter. In a General Educational Development (GED) reading class last year, we attempted to instruct computer illiterate students in the use of one instructional geography software program. The students were given "how to" instructions on three basic keyboard keys, the software was explained and students were then asked to follow the program prompts to interact with the software. Some students gave the program a try and caught on to "computing" without any trouble. Many of the students, however, were unable to overcome their lack of experience and did poorly with the classroom exercise. One student was very distressed and refused to return to class if instructional software continued to be part of the curriculum.

The instructor immediately dropped the computer component of the curriculum.

This incident pointed out that we have a responsibility to familiarize all our Adult Basic Education students with computer technology before we ask them to use computer software as a part of the curriculum. If we do not provide this instruction, we are essentially asking students to learn two very different things at the same time. Many adult students come to Adult Basic Education classes feeling that their skills are inadequate. It is difficult for them to feel comfortable and confident when asked to utilize technology which is very intimidating to them. Our wish is for students to feel better about themselves and increase their self esteem. Our previous computer assisted instruction did not accomplish this objective. However, "Operation Soft Boot" provided our students with the link they needed to succeed in utilizing instructional software.

The goal of this program was to instruct new Adult Basic Education students in basic computer literacy so that the student would be able to concentrate on the classroom lessons rather than concentrating on what button gets pushed next on the computer keyboard. The curriculum is designed to familiarize the student with the computer at the student's current educational level. Once the computer training was completed, computer assisted instruction was integrated into the student's Adult Basic Education classes.

Because computer literacy is so essential in most employment situations, exposing Adult Basic Education students

to computer usage is developing a basic skill. Along with the academic training our ABE program offers we now feel we are providing an excellent foundation for our students' future education and employment.

Training took place throughout the 91-92 year. The time frame for project activities was as follows:

-July, August, September '91 - Development of curriculum.

October '91 - April '92 - Computer literacy instruction: in groups of approximately six to eight students in coordination with basic education classes for which the students were already enrolled.

-May - June '92 - Revision of curriculum and production and dissemination of final product and report.

The project director was Carol Molek, Adult Education Director of the Adult Education and Job Training Center. Ms. Molek has over eight years experience coordinating adult programs for the Intermediate Unit and developing curriculum. Ms. Molek directed the project, supervised the other personnel involved, was responsible for maintaining the planned time frame, recruited program participants and reported to and communicated with the Department. The instructor for the project was Computer Resource Specialist, Troy Scott. Mr. Scott has one year experience as an ABE instructor and over 3 years experience in the computer field using both mainframes and microcomputers. He also has conducted pre-vocational training with ABE students and computer family literacy training. Mr. Scott was responsible for developing the computer literacy



curriculum, preparing curriculum materials, selecting computer software, providing instruction and conducting follow-up activities.

Audiences benefiting most from this program are adults who could benefit from computer assisted instruction to enhance their basic skills development and are enrolled in an ABE program. This report should be useful to ABE administrators and instructors seeking ways to make ABE instruction current, exciting, and stimulating to their students.

Permanent copies of this report can be obtained from:

Bureau of Adult Basic and Literacy Education  
Pennsylvania Department of Education  
333 Market Street  
Harrisburg, Pa 17126-0333

and

AdvancE  
Pennsylvania Department of Education  
333 Market Street  
Harrisburg, PA 17126-0333

"Operation Soft Boot" was administered by the Tuscarora Intermediate Unit No. 11. The Tuscarora Intermediate Unit is a local educational agency which provides education and management services to 9 school districts and 3 vocational-technical schools in Fulton, Huntingdon, Juniata and Mifflin Counties.

The Intermediate Unit operates or oversees all Adult Center programs at the TIU Adult Education and Job Training Center. Center programs have included 306/321 ABE and GED programs; ACT 143

Program; the GED Alumni Association; various JTPA Programs; Carl Perkins project for single parents and displaced homemakers and thirty 310/353 special projects.

"Operation Soft Boot" was housed at the TIU Adult Education and Job Training Center at the Juniata-Mifflin Area Vocational Technical School in Lewistown, Mifflin County. The Adult Center is the home of a wide variety of adult education programs meeting the needs of adults in Juniata and Mifflin Counties. February '92 marked the Adult Center's 8th year of successful operation.

### **Statement of Problem**

"Operation Soft Boot" directly addressed a problem identified in our adult basic education instruction program. Students generally enter our program with feelings of inadequacy and insecurity. They feel out of the educational mainstream and are extremely hesitant to enter new territory. The last thing we want to do is add to these fears. The underlying purpose of "Operation Soft Boot" is to eliminate these fears and give a new sense of confidence and accomplishment. The computer instruction offered allows students to overcome computer/technology phobias and proceed successfully through our academic curriculum.

### **Goals and Objectives**

The goal for "Operation Soft Boot" is to enhance students' adult basic education success by providing basic computer literacy skills paving the way for computer assisted instruction.

#### **Objectives for the project were:**

- to develop a computer literacy curriculum for use with Adult Basic Education students at their current educational level.
- to implement the above curriculum with approximately twenty (20) Adult Basic Education students.

## **Procedures**

The general design of "Operation Soft Boot" involved a two stage plan. Stage One consisted of curriculum development. The curriculum consists of basic computer literacy and instruction in the use of basic skills software and personal computer operation. Stage Two involved implementation of the curriculum. The plan was for approximately twenty (20) participants to be provided with 9 hours of instruction. Classes were coordinated with basic education classes. Students each achieved approximate competency level in operating a microcomputer and received instruction to achieve a minimum level of competency in basic keyboarding skills.

The curriculum development was conducted by the instructor. The instructor prepared computer literacy materials designed for adult students with low basic skills. The instructor utilized software owned by the Adult Education and Job Training Center and software used by other educational institutions wherever licensing agreements permitted such use. Software was purchased only when necessary to legally satisfy license agreements or when software was not available from other sources in specific basic skill areas.

The method of implementation involved over 20 students who were currently enrolled in basic education classes. Classes of eight to ten participants were scheduled for three, three hour sessions. Students worked both on IBM compatible and Apple IIe computers. Hardware for the project is owned by the Center. The nine hours of instruction included computer literacy and a review of keyboarding techniques. Computer literacy instruction included a review of the component parts of personal computer systems and their operation.

Instruction also included a review of computer uses in education and other areas, such as business, with hands-on experience running various types of software.

The review of basic keyboarding included becoming familiar with the operation and function of keys on the keyboard and a brief introduction to touch typing technique. The purpose of basic keyboarding was to familiarize the student with the keyboard, not to instruct the student in typing.

The curriculum outline and resources follow this narrative.

## **Results**

### **Objective #1**

**-to develop a computer literacy curriculum for use with Adult Basic Education students at their current educational level.**

The computer literacy curriculum for 9 hours of instruction was developed. Various resources were included and input from staff and students was solicited during program development.

### **Objective #2**

**-to implement the above curriculum with approximately twenty (20) Adult Basic Education students**

The curriculum was formally implemented with 21 students for the 9 hours. However, many other ABE students received some of the instruction in a less formal setting. Students worked with the Computer Resource Specialist as well as their ABE instructors on basic computer skills and then instructional software. Students were extremely positive about their experiences in this program.

## Evaluation

Evaluation was a continual process. A computer literacy pre and post test was developed and administered. Students' progress was noted as computer skills were achieved and confidence and ease in working with the computer developed over the course of the instruction. Measurement of total achievement and success was based on completion of:

- development of an Adult Basic Education level computer literacy curriculum

- enlisting twenty-one Adult Basic Education students to participate in formal computer literacy instruction with many more receiving instruction in some part of the curriculum

- final report stating the plan and implementation stages of the program and the curriculum to be disseminated by the Tuscarora Intermediate Unit, AdvancE, and the Pennsylvania Department of Education



## **Dissemination**

This project will be available for dissemination through:

Bureau of Adult Basic and Literacy Education Programs  
Pennsylvania Department of Education  
333 Market Street  
Harrisburg, PA 17126-0333

and

Advance  
Pennsylvania Department of Education  
333 Market Street  
Harrisburg, PA 17126-0333

Specific questions should be directed to:

Carol Molek  
Adult Education and Job Training Center  
1020 Belle Vernon Avenue  
Lewistown, PA 17044  
(717) 248-4942

## Conclusions/Recommendations

"Operation Soft Boot" was a highly successful project for our students. Students who participated exhibited none of the apprehension and resistance to computers that we had seen previously. In fact, students loved the experience. They were enthusiastic and eager to learn. They felt accomplished and satisfied with themselves. This confidence transferred to other areas of their instruction.

The one area we would have liked to have seen increased was follow-up instructional time in specific subject areas on the computers. Unfortunately, our students had limited access to the computers because our computer lab is in such high demand. The computer lab is always in use and is available to ABE students on a restricted basis. Because the equipment being utilized has been purchased with entirely other funding, participants in programs supported by this funding must first be given priority in scheduling computer time. This is a frustrating situation for students and instructors and as of yet no solution has been determined.

Some comments from our instructors reflect their thoughts on the program:

I use Alge-blaster with Apple Ile's every chance I get - usually with night students. Unless we get more computers, I don't think the program is as effective as it could be regarding basic skills.

This was a great project! Our students approached the entire experience with much enthusiasm, and they were very willing participants. The instruction was terrific! Because we did the instruction during reading class, Troy prepared computer material that correlated with reading. It was a perfect match! Very, very worthwhile!

Instructors were asked two questions about the project:

- 1) How did students feel about using computers before Soft Boot?      apprehensive, anxious, excited, scared
- 2) How did they after?      proud

As part of follow-up, students were also asked similar questions:

- 1) What were your feelings before instruction and
- 2) How did you feel after Operation Soft Boot instruction?

Some representative comments follow:

I have never tried to mess with a computer before and did not know they had different kinds. It was really interesting. I thought that Troy did a fine job for all the longer he had to work with the class. I am a slow learner at a lot of stuff I do.

My feelings before the computer course were great. My son in middle school was always coming home saying about this part and that part. When I heard we were going to take this course I was really surprised. It gave me the chance to be able to answer some of his questions when asked about them. I thought it was a great idea. I never used a computer in my life. I thought it was fun. I guess it was because it was something I wanted to learn. My feelings after the course. I was not here for all of the classes. I wish I could have been. Now I think I may go into a field of computers, or into some kind of workplace that uses them. They are not as difficult to use as I thought they would be. This was a good course for me. I'd do it again if I got the chance.

Before I began computer class I never used a computer. It was scary, yet exciting learning something new. Now, I think I would like a computer at home. Once you get to know how to use a computer it was fun, and I would like to study further. There is an awful lot of further study that has to do with computers. We may all have to have one in the future to communicate. My oldest daughter runs a computer where she works, and my 13 year old is in a computer class at school. He did ask me if I know how to boot up a computer. We talk about computers and children are an inspiration.

My reactions and feelings whenever I heard that we'd be on computers a short time was a little scary. I was apprehensive and very nervous about it. I thought I'm going to hate this. I felt intimidated to the point where I thought I'd completely mess up or not understand anything about the computer. After the course I definitely was proven wrong. It turned out I could grasp a lot of what was in the packets on computers. I enjoyed working with them and found they could be fun as well as interesting, but yet still a little bit of mystery to them. I wasn't as nervous and could relax and try to take advantage of what was being taught to me about computers.

Once I knew a little more about it, it became very interesting, especially when we did the spelling. I liked the part of picking - a liquid, solid or gas. Things like this are interesting. I end by saying I would love to know how to work on a computer. The time was not wasted.

My feelings before the course: I was excited, anxious, ready to go. I loved the thought of learning about computers. My reactions/ feelings after the course were the same as before the course only a little stronger. I always wanted to learn how to use a typewriter or computer. When I was in high school I felt I wasn't good enough to try anything. I could spend months in computer class if it was allowed. I really loved learning about computers.

I never thought I could begin to learn the computer. I was afraid to learn. I know I haven't learned all the things a computer can do but I feel I had a good start. I bought a small second hand computer and was afraid to use it because I didn't know a thing about it. I bought it for my kids because they said they play on a computer a couple times a week. Now that I know some basic instructions I feel I should be able to run the computer for myself.

My feelings involving the computer class was one of complete ignorance. There was a lot of information given at one time. I realize we really didn't have the time necessary to go over the information indepth, however, I feel I can now approach a computer and know I can't "hurt" it nor can it "hurt" me; I look forward to working with them in the future and gaining additional knowledge. Also, having a knowledgeable instructor helped. I

believe computer classes would be beneficial for all future classes.

In conclusion, we feel that "Operation Soft Boot" was extremely beneficial to our students and is certainly a worthwhile project for others to replicate. Recommendations for the future include continuation of such training within the ABE class basic curriculum. The lack of equipment dollars with our programming is a severe problem; however, in developing the kind of basic computer training so important to our students' today our hope is that some solution to this problem will develop. In the meantime we will continue to work with our limited resources to provide opportunities in computer literacy for our students.

## Appendix

## Software Listing

Apple Presents the Apple IIE, Apple  
Apple Presents the Inside Story, Apple  
DOS 3.3, Microsoft  
Appleworks, Claris  
Appleworks Training Disk  
Word Perfect 5.0  
Easy Writer, EasyWorking  
Math Blaster Plus, Davidson  
Conquering Decimals, MECC  
Conquering Fractions MECC  
Conquering Ratio & Proportion, MECC  
Grammar Gremlins, Davidson  
Typing Tutor IV, Kryia Systems  
Prepositions, QUEU  
Pronouns, QUEU  
Sentences, Micro Power & Light  
Using Commas, QUEU  
Word Attack Plus, Davidson  
Lotus 1-2-3 Tutorial, Lotus  
Perfect Forms, EasyWorking  
Speed Reader II, Davidson  
Letterwriter for Job Seekers, Wintergreen Software  
Resume Writing Career Development Software  
Print Shop, Broderbund

**Curriculum Outline**

**Tests**

**Vocabulary**

**History**

**D O S**



# Tuscarora Intermediate Unit Adult Education and Job Training Center

CAROL MOLEK  
Adult Education Co-ordinator

ADELE T. CRAIG  
JTPA Director

## SOFT BOOT

### I. Intro to the course and goals

- A. Pre-test
- B. Handout the text - Computer Literacy by Caleb E. Crowell  
Assign chapters 1-6 in Unit A for the next week.
- C. Discuss the parts of the computer
  - 1. Monitor
  - 2. CPU
  - 3. Drives
  - 4. Keyboard
- D. Complete the Introduction to the Apple Tutorial diskette
- E. Complete the Inside Story diskette
- F. Finish up the morning with the Oregon Trail

### II. Computer Math Class

- A. Review the text assignments
- B. Answer any questions on the Inside Story and Apple Tutorial
- C. Provide the class with math software for the Apple to provide math remediation

### III. IBM/IBM Compatible

- A. Review last weeks information ad text assignment
- B. Introduce DOS and discuss basic commands
- C. Work on Word Attack Plus, Math Blaster and Math Blaster Plus
- D. Post-test
- E. Evaluation

Name: \_\_\_\_\_

Date: \_\_\_\_\_

I. 1-20 Multiple choice

1. You are working on a computer. The computer has asked you a question, and you have typed the answer. Your answer appears on the screen. How do you tell the computer that you are ready to go on?
  - a. Press the cursor control key
  - b. Press M for memory
  - c. Press the RETURN key
  - d. Don't do anything
2. The computer's long term memory is stored on \_\_\_\_\_.
  - a. Chips
  - b. A microprocessor
  - c. A power supply
  - d. A PC board
3. A chip contains \_\_\_\_\_.
  - a. A clock
  - b. A PC board
  - c. An IC
  - d. None of the above
4. Which is not the same?
  - a. A desktop computer
  - b. A microcomputer
  - c. A minicomputer
  - d. A personal computer
5. Elsie is thinking about buying a disk drive that handles double-sided, double-density diskettes. This kind of diskette
  - a. Holds more than other disks
  - b. Spins faster than other disks
  - c. Cost less than other disks.
  - d. Is bigger than other disks
  - e. Has to do with the brand name

6. A diskette is the same as a
- a. Winchester
  - b. Hard disk
  - c. Disk drive
  - d. floppy
7. The bill you receive at the checkout counter is an example of \_\_\_\_\_.
- a. Input
  - b. Output
  - c. Graphics
  - d. An operator command
8. If I am to present a report to the class, I may use pie charts to pictorally show a comparison between several variables. A pie chart is an example of
- a. Graphics
  - b. Integrated circuit
  - c. An interface
  - d. A modulator
9. A chip is made of \_\_\_\_\_.
- a. Graphite
  - b. Silicon
  - c. Silver
  - d. Magnesium
10. If there is a power outage, the information in ROM
- a. is lost
  - b. is not affected
  - c. is transferred to ASCII code
  - d. is transferred to a diskette
11. RAM is \_\_\_\_\_.
- a. Temporary
  - b. Permanent
  - c. also called a Winchester
  - d. part of the hard drive

12. The bill you receive at the checkout counter is a/an
- a. "Soft copy"
  - b. Lamination
  - c. "Hardcopy"
  - d. "Easycopy"
13. The proper way to change from the A DRIVE on the IBM to the B DRIVE is \_\_\_\_\_.
- a. B;
  - b. B"
  - c. B=
  - d. B:
14. Which of the following is not included in the proper care of the diskette?
- a. Don't touch the windows
  - b. Don't place in excessive heat
  - c. Don't lay on the desk with other diskettes
  - d. Don't place heavy objects on the diskettes
15. If you want to save a document that you have typed in WordPerfect, you will save it to \_\_\_\_\_.
- a. ROM
  - b. RAM
  - c. The microprocessor
  - d. A diskette
16. Floppy disks can come in all the following sizes but \_\_\_\_\_.
- a. 7.0"
  - b. 3.5"
  - c. 5.25"
  - d. 8.0"
17. If you want to begin a program, where do you type the command name?
- a. At the DOS prompt
  - b. At the time prompt
  - c. At the date prompt
  - d. It begins by itself just like the apple
18. What is the difference between the Apple and the IBM?
- a. You cannot do both a warm boot and a cold boot on the IBM
  - b. You cannot save your work on the Apple
  - c. You need to jump start the IBM with a DOS disk
  - d. There isn't any difference between the two

19. What does format mean?

- a. To prepare a disk for use with a specific system
- b. To save to your disk
- c. To destroy the disk itself
- d. To initialize the system

20. To link more than one PC to a printer you can use a/an

- a. IC
- b. Modulator
- c. Winchester
- d. A/B Switch Box

II. SHORT ANSWER (1-10)

1. If you are at the A> prompt and want to look at what's on the disk in the B DRIVE, but you only want the names of the files and not the times and dates, what would you type in?

\_\_\_\_\_

2. What command clears the screen? \_\_\_\_\_

3. If you are at the A> prompt and want to copy the file TEST.WK1 to the B DRIVE, what would you type in?

\_\_\_\_\_

4. I want to rename TEST.WK1 as TESTBK.WK1. How do I do this?

\_\_\_\_\_

5. I also want to delete the file called GRADES1.PIC. How do I do this? \_\_\_\_\_

6. Name 4 things you don't do to a diskette.

(1) \_\_\_\_\_

(2) \_\_\_\_\_

(3) \_\_\_\_\_

(4) \_\_\_\_\_

7. What type of print is the following?

\_\_\_\_\_

X You are working on a computer. The computer has asked you a question, and you have typed the answer. Your answer appears on the computer's TV screen. What do you usually have to do to put your answer into the computer's memory?

- (a) press a cursor control key
- (b) press M for memory
- c. press the RETURN key
- d. don't do anything

2 The computer's long-term memory is stored on

- (a) chips
- b. a microprocessor
- c. a power supply
- d. a PC board

3 A chip contains

- a. a clock
- (b) a PC board
- c. an IC

4 Three of these machines are the same. One is different. Check the different one.

- a. desktop computer
- (b) microcomputer
- (c) minicomputer
- d. personal computer

5 Jeannine is thinking of getting a disk drive that handles double-side, double-density diskettes. This kind of diskette

- a. costs less than other disks
- (b) holds more than other disks
- c. spins faster than other disks
- d. is bigger than other disks

6 A diskette is the same as a

- (a) floppy
- (b) hard disk
- c. Winchester
- d. disk drive

7 MATCH:

- |                 |                             |
|-----------------|-----------------------------|
| A. biggest      | <u>A B</u> mainframe comput |
| B. medium sized | <u>C A</u> microcomputer    |
| C. smallest     | <u>B C</u> minicomputer     |

8 When a customer's bill is calculated, the bill printed up by an automatic typewriter called a "printer," which is connected to the computer. This is example of

- a. programming
- b. operator command
- (c) output

9 A pie chart in bright colors is an example of

- (a) graphics
- b. an interface
- c. a modulator
- d. a CRT

10 The chip is made of

- a. carbon
- (b) silicon
- c. silver
- d. steel

22. To check the status of a device, the user should use the command dir.

A - C  
B - K  
C - B

D - A

E - ...

11 You are working at your computer. A sudden thunderstorm interrupts the power to the place you live. What stays in the computer's memory?

- a. a program stored in RAM
- ☒ b. a program stored in ROM
- c. data in the CPU's short-term memory
- d. nothing at all

12 You have written a great program for playing a super computer game. How do you save it so that the computer can run it at a later date?

- a. write it into ROM
- b. save it in RAM
- ☒ c. write it onto magnetic tape or a disk
- d. write it out on a piece of paper

13 A program called an operating system is written into the memory of many computers by the manufacturer. It's permanent, since it controls the operations of the computer and the various devices connected to it. This kind of operating system is stored in the

- a. RAM
- ☒ b. ROM
- c. CPU
- d. ALU

14 Other manufacturers put the operating system onto a disk. When the computer is turned on and the disk is inserted, the operating system is transferred to the computer's memory. In this method, the operating system goes into

- ☒ a. RAM
- b. ROM
- c. CPU

15 June is reading instructions on how to run a program on her computer. One instruction tells her to press CONTROL H whenever she wants the computer to display a list of helpful instructions. She taps the key marked CTRL. After that, she presses H. Nothing happens. What should she try next?

- ☒ a. press H alone
- b. hold down CTRL and press H while still holding down CTRL
- c. hold down CTRL for 20 seconds. Then lift finger off key and press H
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16 A computer whose operating system is "built in" has most of its systems software programmed in its

- a. CPU
- ☒ b. RAM
- ☒ c. ROM

17 Put an H (for hardware) or an S (for software) in each of the following:

- a. disk drive S
- b. DOS S
- c. keyboard H
- d. program H
- e. blank diskette S
- f. computer H

18 The computer's long-term memory is stored on

- ☒ a. chips
- b. a microprocessor
- c. a power supply
- d. a PC board

19 A chip contains

- a. a clock
- ☒ b. a PC board
- c. an IC

20 Match.

- A. DOS
- B. systems software
- C. applications software
- D. hardware

- B monitor screen
- D game program
- C runs disk drive
- A controls computer operations

21 "Hard copy" is

- a. hard to read
- ☒ b. printed on paper
- c. hard to copy
- d. printed on the computer screen

Name :                     

Date : 10-25

19  
20

I. 1-20 Multiple choice

1. You are working on a computer. The computer has asked you a question, and you have typed the answer. Your answer appears on the screen. How do you tell the computer that you are ready to go on?

- a. Press the cursor control key
- b. Press M for memory
- ☒ c. Press the RETURN key
- d. Don't do anything

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- ☒ d. None of the above

4. Which is not the same?

- a. A desktop computer
- b. A microcomputer
- ☒ c. A minicomputer
- d. A personal computer

5. Elsie is thinking about buying a disk drive that handles double-sided, double-density diskettes. This kind of diskette

- ☒ a. Holds more than other disks
- b. Spins faster than other disks
- c. Cost less than other disks
- d. Is bigger than other disks
- e. Has to do with the brand name



6. A diskette is the same as a
- a. Winchester
  - b. Hard disk
  - c. Disk drive
  - ☒ d. floppy
7. The bill you receive at the checkout counter is an example of \_\_\_\_\_.
- a. Input
  - ☒ b. Output
  - c. Graphics
  - d. An operator command
8. If I am to present a report to the class, I may use pie charts to pictorially show a comparison between several variables. A pie chart is an example of
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  - b. Integrated circuit
  - c. An interface
  - d. A modulator
9. A chip is made of \_\_\_\_\_.
- a. Graphite
  - ☒ b. Silicon
  - c. Silver
  - d. Magnesium
10. If there is a power outage, The information in ROM
- a. Is lost
  - ☒ b. Is not affected
  - c. Is transfered to ASCII code
  - d. Is transfered to a diskette
11. RAM is \_\_\_\_\_.
- ☒ a. Temporary
  - b. Permanent
  - c. also called a Winchester
  - d. part of the hard drive
12. The bill you receive at the checkout counter is a/an
- a. "Soft copy"
  - b. Lamination
  - ☒ c. "Hardcopy"
  - d. "Easycopy"

13. The proper way to change from the A DRIVE on the IBM to the B DRIVE is \_\_\_\_.

- a. B;
- b. B"
- c. B=
- ☒ d. B:

14. Which of the following is not included in the proper care of the diskette?

- a. Don't touch the windows
- b. Don't place in excessive heat
- ☒ c. Don't lay on the desk with other diskettes
- d. Don't place heavy objects on the diskettes

15. If you want to save a document that you have typed in Appleworks, You will write it to \_\_\_\_.

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18. What is the difference between the Apple and the IBM?

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19. What does format mean?

- ☒ a. To prepare a disk for use with a specific system
- b. To save to your disk
- c. To destroy the disk itself
- d. To initialize the system

20. To link more than one PC to a printer you can use a/an
- a. IC
  - b. Modulator
  - c. Winchester
  - (d) A/B Swith Box

✓ You are working on a computer. The computer has asked you a question, and you have typed the answer. Your answer appears on the computer's TV screen. What do you usually have to do to put your answer into the computer's memory?

- a. press a cursor control key
- ☒ b. press M for memory
- ☒ c. press the RETURN key
- d. don't do anything

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- b. a microprocessor
- c. a power supply
- d. a PC board

WBA A chip contains

- a. a clock
- ☒ b. a PC board
- ☒ c. an IC

✓ Three of these machines are the same. One is different. Check the different one.

- a. desktop computer
- ☒ b. microcomputer
- ☒ c. minicomputer
- d. personal computer

5 Jeannine is thinking of getting a disk drive that handles double-side, double-density diskettes. This kind of diskette

- a. costs less than other disks
- ☒ b. holds more than other disks
- c. spins faster than other disks
- d. is bigger than other disks

6 A diskette is the same as a

- ☒ a. floppy
- b. hard disk
- c. Winchester
- ☒ d. disk drive

7 MATCH:

- A. biggest
- B. medium sized
- C. smallest

A mainframe comp  
C microcomputer  
B minicomputer

8 When a customer's bill is calculated, the bill is printed up by an automatic typewriter called a "printer," which is connected to the computer. This is an example of

- ☒ a. programming
- b. operator command
- ☒ c. output

9 A pie chart in bright colors is an example of

- ☒ a. graphics
- b. an interface
- ☒ c. a modulator
- d. a CRT

10 The chip is made of

- ☒ a. carbon
- ☒ b. silicon
- c. silver
- d. steel

11. You are working at your computer. A sudden thunderstorm interrupts the power to the place you live. What stays in the computer's memory?

- a. a program stored in RAM
- ☒ b. a program stored in ROM
- c. data in the CPU's short-term memory
- ☐ d. nothing at all

12. You have written a great program for playing a super computer game. How do you save it so that the computer can run it at a later date?

- a. write it into ROM
- b. save it in RAM
- ☒ c. write it onto magnetic tape or a disk
- d. write it out on a piece of paper

13. A program called an operating system is written into the memory of many computers by the manufacturer. It's permanent, since it controls the operations of the computer and the various devices connected to it. This kind of operating system is stored in the

- a. RAM
- ☒ b. ROM
- c. CPU
- d. ALU

14. Other manufacturers put the operating system onto a disk. When the computer is turned on and the disk is inserted, the operating system is transferred to the computer's memory. In this method, the operating system goes into

- ☒ a. RAM
- b. ROM
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- |                          |                                                    |
|--------------------------|----------------------------------------------------|
| A. DOS                   | <u>D</u> <del>A</del> monitor screen               |
| B. systems software      | <u>C</u> <del>B</del> game program                 |
| C. applications software | <u>A</u> <del>C</del> runs disk drive              |
| D. hardware              | <u>B</u> <del>D</del> controls computer operations |

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## DEFINITION OF A COMPUTER:

A computer is a programmable electronic device that can store, retrieve, and process data.

A program is a set of instructions to be carried out later.

Store - to put away for safekeeping or later use.  
storing to a computer is also called writing.

Retrieve - to get and bring back.  
retrieving to a computer is also called reading.

Process - calculate, compare, sort, organize, and/or arrange.

Data are facts or information.

## TYPES OF COMPUTERS:

analog computers - operate using smooth, continuous changes in electricity. Ex. speedometer, thermometer

digital computers - use electrical signals that switch on and off.  
Ex. microcomputers

## KINDS OF COMPUTERS:

Mainframe computers - large in size, can handle alot of work (contain a large amount of memory), very expensive (hundreds of thousands of dollars to more than a million), can have a terminal connected to them, can do more than one kind of at a time.

Minicomputers - medium in size, can handle much work, expensive (10 to 100 thousand dollars), can have terminal connected to them, can do more than one kind of job at a time.

Microcomputers (personal or home computers) - compact or portable, can handle a good amount of work, affordable (less than 6 thousand - some for only a few hundred dollars), can do only one kind of job at a time.

Minicomputers are smaller than mainframes and larger than microcomputers. Mainframes and minicomputers can communicate with other computers through telephone wires and the use of a modem. Microcomputers can also be used as terminals for mini and mainframe computers. Mini and mainframe computers with terminals are said to be using a time-sharing system.

## THE MAIN PARTS OF A COMPUTER AND HOW A COMPUTER WORKS:

Central Processing Unit (CPU) - the heart of the computer. Made up of the control unit and the arith/logic unit. The CPU processes the information.

The Control Unit is a set of master programs that interprets the user's programs and supervises the overall operation of the computer.

The Arith/Logic Unit performs arithmetic operation and comparing operations.

The Memory Unit stores information. External and Internal - RAM and ROM.

The Input Unit accepts information. When the computer is ready to accept input from the keyboard an indicator called a cursor is displayed on the monitor to show where the next input will be printed.

The Output Unit gives out the processed information.

Software are computer programs.

Hardware are the machines or the computer itself.

## COMMUNICATING WITH A COMPUTER

A program is a set of instructions that tell the computer what to do.

Programs must be written in a language that the computer understands.

There are many computer languages.

Each one is designed for a particular purpose.

Some examples are BASIC, COBOL, FORTRAN, PASCAL, Logo, PL1, RPG, etc.

BASIC - Beginners All-purpose Symbolic Instruction Code

Syntax - grammar, format, or structure of a programming language.

Programs are called software and can be purchased for specific brand of computer, and usually cannot be used on another brand. Purchased programs are sometimes called canned programs or application software.

## HISTORY NOTES

### I. CALCULATING MACHINES

#### ABACUS

one of the first tools used to express numbers  
developed by the Chinese  
still in use today

#### Blaise Pascal

developed the arithmetic machine  
used gears to operate  
could only do addition and subtraction

#### Charles Babbage

developed the analytical engine  
contained the 4 main parts of a modern computer  
(input, output, memory, and processing unit)  
used punched cards to input information  
never worked

#### Ada Augusta Byron Lovelace

First Woman Programmer  
Convinced Babbage to use the binary number system  
described how the Analytical Engine could be programmed

#### Herman Hollerith

developed the Tabulating Machine - used in the 1890  
census  
used punched cards successfully  
developed the punched card - called Hollerith Card  
Started a company we know today as IBM

### II. Computers

#### Mark I

Electromechanical computer - used electricity and moving  
parts to operate  
Developed at Harvard University - 1944

### III. First generation of computers

used vacuum tubes  
1,000 calculations per second

#### ENIAC

first digital computer - all electronic  
developed at the University of PA  
very large, gave off alot of heat, very expensive  
used vacuum tubes to operate - over 18,000  
300 times faster than the Mark I  
had to be rewired to change programs

EDVAC

stored instructions and data

UNIVAC

first commercial computer - developed by IBM

IV. Second Generation of Computers

used transistors

10,000 - 1,000,000 calc. per sec.

magnetic core memory

First high-level language developed - FORTRAN

COBOL developed for the Department of Defense

BASIC developed at Dartmouth College

transistors developed by Bell Laboratories

less expensive, less electricity, less heat, smaller

V. Third Generation of Computers

used integrated circuits (IC)

1,000,000 - 10,000,000 calc. per sec.

Integrated circuit could be mass produced

less expensive and smaller (some table top size)

100 times faster than 2nd generation computers

1,000 times faster than 1st generation computers

VI. Fourth Generation of Computers

used integrated circuit chips (ICC)

10,000,000+ calculations per second

microcomputers, electronic games, pacemakers developed

less expensive, smaller, faster and more powerful

VII. Fifth Generation - Future of Computers

voice synthesizers

Artificial intelligence

ETC. !!!

## DOS (DISC OPERATING SYSTEM)

- I. Function keys: Located on the left side of the keyboard.
- II. Special keys:

Esc - the escape key is usually located in the upper left corner of the typewriter area. (Note: on ours it is above the number pad)

Ctrl - used in conjunction with other keys

Alt - used in conjunction with the Ctrl key and others.

Capslock - allows you to generate upper case letters of the alphabet.

Numlock - used to change the function of the keys on numeric pad.

- III. Warm boot : Ctrl-Alt-Del

- IV. The following is called the prompt:

A>

When changing from the default drive A to drive B, you enter B: (Return). See ex. below:

```
A>B:(return)
B>
```

When changing to another drive, remember to type the letter of the drive and a colon.

- V. Date/Time : You may change the date and the time when you boot up the system or you may also change them by entering the command to change them. (See example below)

Ex. 1. Changing the time.

```
A>Time
Current time is 15:03:44.8
Enter new time:
```

\* Note: remember to enter time in military style!!!

Ex. 2. Changing the date.

```
A>Date
Current date is Mon 9-16-1991
Enter new date:
```

\* Note: remember to enter date with slashes or dashes!!!

## VI. DOS Commands

1. DIRectory : the command is DIR  
A>Dir will give you a list of all files on the disk in drive A.  
  
A>Dir B: will give you a list of the files on the disk in Drive B.  
  
A>Dir/P will pause at the end of every screen.  
  
A>Dir/W will give a wide display
2. CLS : clears the screen.  
A>cls
3. Ver : will give the DOS version in use.  
A>Ver
4. DElete : will delete a file from the disk.  
A>Del troy.fil
5. Erase : will erase a file from the disk.  
A>Erase Troy.fil

\*Note: this will do the same as the DEL command.

6. Rename : will rename a file.  
A>Rename Troy.fill Sandy.fil
7. Copy : will copy a file from one disk to another.  
A>Copy Troy.fil B:  
\*To make a backup----- A>Copy Troy.fil TroyBK.fil
8. Wildcard : the "\*" and "?" are used as wildcards.  
It replaces anything in the name or ext. position.  
\*copies anything in the A drive to the b drive  
A>Copy \*.\* B:
9. Format : prepares the disk for use in the IBM/IBM Compatible  
A>Format b:  
\*place the target disk in the B drive and press enter.

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